

APPLICATION NO. 10/600,689

(NEWKO1.001C1)

PROPOSED CLAIM AMENDMENTS
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✓ 1-7. (Canceled)

✓ 8. (Currently amended) An isolated arabinose isomerase polypeptide comprising SEQ ID NO: 4 encoded by a polynucleotide arabinose isomerase isolated from Thermotoga neapolitana.

9. (Currently amended) An isolated polynucleotide polypeptide comprising SEQ ID NO: 3 that encodes for an arabinose isomerase polypeptide encoded by a nucleotide derived from Thermotoga neapolitana.

10. (Currently amended) The isolated polynucleotide polypeptide of Claim 9, wherein said arabinose isomerase has the amino acid sequence of SEQ. ID NO: 4.

✓ 11. (Currently amended) The isolated polypeptide of Claim 8-10, wherein said polypeptide is attached to further comprising a solid support.

✓ 12. (Original) The isolated polypeptide of Claim 11, wherein the solid support is a silica bead.

13-15. (Canceled)

16. (Currently amended) An arabinose isomerase produced by a method comprising: providing a host cell transformed with the polynucleotide sequence SEQ ID NO: 3 an expression vector comprising a nucleotide derived from Thermotoga neapolitana, the polynucleotide coding for an arabinose isomerase and ~~the arabinose isomerase~~ culturing the host cell in a medium, thereby producing an the arabinose isomerase.

17. (Currently amended) A method of producing tagatose, comprising: providing the isolated polypeptide of Claim 8-9; and admixing the arabinose isomerase with galactose, thereby causing a reaction and producing tagatose.

18. (Original) The method of Claim 17, wherein the reaction is carried out at a pH from about 5 to about 8.

19. (Original) The method of Claim 17, wherein the reaction is carried out at a temperature from about 50°C to about 100°C. *50-100°C*

20. (Original) The method of Claim 19, wherein the reaction is carried out at a temperature from about 70°C to about 95°C.

21. (Original) The method of Claim 17, wherein the isolated polypeptide is attached to a solid support.

22. (Original) The method of Claim 21, wherein the solid support is a silica bead.

23. (Original) The method of Claim 17, wherein the reaction is carried out at a temperature of about 80°C.

24. (Canceled)

25. (Canceled)

26. (Currently amended) The isolated polypeptide of Claim 8-9-, wherein the polynucleotide has the sequence of SEQ. ID NO: 3.

27. (Previously presented) The arabinose isomerase of Claim 16, wherein the arabinose isomerase has the amino acid sequence of SEQ. ID NO: 4.

28. (Canceled)

29. (Previously presented) The arabinose isomerase of Claim 16, wherein the host cell is *E. coli*.

30. (Previously presented) The arabinose isomerase of Claim 16, wherein the host cell is *E. coli* BL21/DE3 (pTNAI) deposited as Accession No. KCCM-10231.

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